

REMARKS

This Application has been carefully reviewed in light of the final Office Action mailed December 18, 2002. Applicants appreciate the Examiner's consideration of the Application. Claims 1, 19, and 16 have been amended to clarify, more particularly point out, and more distinctly claim inventive concepts previously present in these claims. These amendments are not considered necessary for patentability. Applicants respectfully submit that no new matter has been added by the amendments to the claims. In order to advance prosecution of this Application, Applicants have responded to each notation by the Examiner. Applicants respectfully request reconsideration and favorable action in this case.

I. INFORMATION DISCLOSURE STATEMENT

Applicants respectfully thank the Examiner for acknowledging the Information Disclosure Statement ("IDS") received on March 12, 1999.

II. TELEPHONE CONFERENCE

Applicants respectfully thank the Examiner for the courtesy of the telephone conference conducted on January 31, 2003.

III. 35 U.S.C. § 112 REJECTIONS

The Examiner rejects Claims 1-22 under 35 U.S.C. § 112. The Examiner rejects Claim 1 because "it is uncertain who performs the 'triggering occurrence'." (*Office Action, Page 2, Paragraph 3(b)(i)*). Applicants respectfully note that Claim 1, as amended, recites, "the triggering occurrence associated with a customer node." As a result, Claim 1 is clear that the triggering occurrence is associated with a customer node. While Claim 1 may not recite who performs the triggering occurrence, this is not needed for Claim 1 to meet the requirements of 35 U.S.C. § 112.

For at least these reasons, Applicants respectfully request withdrawal of the rejection of Claims 1-22.

IV. 35 U.S.C. § 103 REJECTIONS

The Examiner rejects Claims 1-3, 5-10, 12-17, and 19-22 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,948,063 by Cooper et al. ("*Cooper*"). The Examiner also rejects Claims 4, 11, and 18 under 35 U.S.C. § 103(a) as being unpatentable over *Cooper* in view of U.S. Patent No. 6,349,334 by Faupel et al. ("*Faupel*"). Applicants respectfully traverse these rejections and statements made in support of the rejection for the reasons discussed below.

For example, *Cooper* fails to disclose, teach, or suggest:

(1) "in response to receiving at least one of a new second service state for the first parent node and a new third service state for the second parent node, redetermining the first service state for the node using at least one of the new second service state for the first parent node and the new third service state for the second parent node" (as recited by Claim 1); or

(2) "in response to receiving at least one new second service state for at least one of the plurality of parent nodes, dynamically redetermining the first service state for the node using the at least one new second service state for the at least one of the plurality of parent nodes" (as recited by Claim 9); or

(3) "wherein the first service state for the node is dependent upon the second service states of the plurality of parent nodes, the first service state for the node dynamically redetermined in response to at least one new second service state of at least one of the plurality of parent nodes" (as recited by Claim 16).

The Examiner relies on the following passage from *Cooper* (column 25, lines 29-37) to teach, "in response to receiving a new service state for one of the parent nodes, redetermining the service state for the node based on the service states for the parent nodes." (*Office Action, Page 3, Paragraph 6*).

If this operation caused the alarm object to change from a clear "state" to a persistent "state", this change in state would then be propagated back up the object model tree to all parent objects from which that alarm object depends. Hence, if the alarm corresponds to an element on a card, then the parent

objects, eg. the card object, the shelf object, and the corresponding rack object, would all be updated to reflect this change in the alarm state.

The Examiner relies on another following passage from *Cooper* (column 15, lines 5-15) to teach, "inserting the new service state for the node in each child node." (*Office Action, Page 4, Paragraph 10*).

The object may also contain one or more alarm parameters which can be set in response to specific alarm conditions relating, for example, to hardware errors, line malfunctions etc. The status field for an object includes a fault parameter which becomes set when at least one alarm parameter in the object or in a dependent object is set. In other words, when a fault parameter is set in one object, this fault status is propagated up the tree using the pointers to successive parent objects. Each of the objects also contains a definition of the object which can be used for displaying a representation, or view, of that object.

That is, *Cooper* teaches propagating a change from a child object to a parent object. The Examiner, however, has not shown that *Cooper* discloses a state of a child node determined in response to a state of a parent node, which involves propagating some type of change from a parent node to a child node. Consequently, at a minimum, *Cooper* fails to disclose, teach, or suggest, "redetermining the first service state for the node using at least one of the new second service state for the first parent node and the new third service state for the second parent node" (as recited by Claim 1); "dynamically redetermining the first service state for the node using the at least one new second service state for the at least one of the plurality of parent nodes" (as recited by Claim 9); or "the first service state for the node dynamically redetermined in response to at least one new second service state of at least one of the plurality of parent nodes" (as recited by Claim 16). For at least these reasons, *Cooper* fails to disclose, teach, or suggest the combination of limitations specifically recited in Applicants' independent Claims 1, 9, and 16.

Applicants' dependent claims are allowable based on their dependence on the independent claims and further because they recite numerous additional patentable distinctions over the prior art. Moreover, *Cooper*, even in view of *Faupel*, fails to disclose, teach or suggest Claims 4, 11, and 18. Because Applicants believe they has amply

demonstrated the allowability of the independent claim over the prior art, and to avoid burdening the record, Applicants have not provided further detailed remarks concerning the other dependent claims. Applicants, however, remain ready to provide such remarks if it becomes appropriate to do so.

Applicants respectfully request reconsideration and allowance of independent Claim 1 and all claims that depend on this claim.

CONCLUSION

Applicants have made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicants respectfully request full allowance of all the pending claims.

If the Examiner believes a telephone conference would advance prosecution of this case in any way, the Examiner is invited to contact Keiko Ichiye, the Attorney for Applicants, at the Examiner's convenience at (214) 953-6494.

Although Applicants believe no fees are due, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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MARKED UP VERSION OF CLAIMS

1. (Amended) A method for modeling behavior of elements in a telecommunications network, comprising:

providing a node representing a network element;

storing in the node a first service state for the node;

storing in the node a second service state for a first parent node upon which the node is operationally dependent;

receiving a notification of a triggering occurrence, the triggering occurrence associated with a customer node;

in response to [a] **the** triggering occurrence, dynamically associating a second parent node with the node, **the second parent node comprising the customer node;**

storing in the node a third service state for the second parent node; and

in response to receiving at least one of a new second service state **for the first parent node** and a new third service state **for the second parent node**, redetermining the first service state for the node using at least one of the new second service state **for the first parent node** and the new third service state **for the second parent node**.

2. The method of Claim 1, further comprising generating the second parent node in response to a triggering occurrence.

3. The method of Claim 1, wherein the network element is a physical element in the telecommunications network and the parent nodes represent physical elements in the telecommunications network.

4. The method of Claim 1, wherein the network element is a first physical element in the network, the first parent node represents a second physical element in the network upon which the first physical element is physically dependent, and the second parent node represents a logical element in the network upon which the first physical element is logically dependent.

5. The method of Claim 1, further comprising, in response to the redetermined service state for the node being a new service state for the node:

determining any child nodes for the node, the child nodes operationally dependent upon the node; and

inserting the new service state for the node in each child node.

6. The method of Claim 5, further comprising redetermining a service state for each child node in response to the new service state for the node being inserted in the child node.

7. The method of Claim 1, further comprising:
storing in the node an operation state for the node; and
in response to receiving a new operation state, redetermining the service state for the node based on the operation state and the parent service states.

8. The method of Claim 7, wherein the operation state is a composite state including at least one of a broken state, an in-service state, and a maintenance state for the node.

9. **(Amended)** A method for modeling behavior of elements in a telecommunications network, comprising:
providing a node representing a network element;
storing in the node a first service state for the node;
storing in the node a second service state for each of a plurality of parent nodes upon which the node is operationally dependent; and
in response to receiving at least one new second service state for at least one of the plurality of parent nodes, **dynamically** redetermining the first service state for the node using the at least one new second service state **for the at least one of the plurality of parent nodes**.

10. The method of Claim 9, wherein the network element is a physical element in the network and the parent nodes represent physical elements in the network.

11. The method of Claim 9, wherein the network element is a first physical element in the network, one of the parent nodes represents a second physical element in the network upon which the first physical element is physically dependent, and one of the parent nodes represents a logical element in the network upon which the first physical element is logically dependent.

12. The method of Claim 9, further comprising, in response to the redetermined service state for the node being a new service state for the node:

determining any child nodes for the node, the child nodes operationally dependent upon the node; and

inserting the new service state for the node in each child node.

13. The method of Claim 12, further comprising redetermining a service state for each child node in response to the new service state for the node being inserted in each child node.

14. The method of Claim 9, further comprising:

storing in the node an operation state for the node; and

in response to receiving a new operation state, redetermining the service state for the node based on the operation state and the parent service states.

15. The method of Claim 14, wherein the operation state is a composite state including at least one of a broken state, an in-service state, and a maintenance state for the node.

16. **(Amended)** A network control system for modeling behavior of elements in a network, comprising:

a node representing a network element;

a state store in the node for storing a first service state for the node;

a parent state store in the node for storing second service states for a plurality of parent nodes upon which the node is operationally dependent; and

wherein the first service state for the node is dependent upon the second service states of the plurality of parent nodes, **the first service state for the node dynamically redetermined in response to at least one new second service state of at least one of the plurality of parent nodes.**

17. The system of Claim 16, wherein the network element is a physical element in the network and the parent nodes represent physical elements in the network.

18. The system of Claim 16, wherein the network element is a first physical element in the network, one of the parent nodes represents a second physical element in the network upon which the first physical element is physically dependent, and one of the parent nodes represents a logical element in the network upon which the first physical element is logically dependent.

19. The system of Claim 16, the node further comprising:
a child list including a list of child nodes operationally dependent upon the node; and
wherein the node is operable to insert the service state for the node into each of the child nodes in the child list upon a change in the service state for the node.

20. The system of Claim 16, further comprising a state determiner operable to redetermine the service state for the node based on the service states for the parent nodes.

21. The system of Claim 16, the node further comprising:
an event list including a list of specified events; and
an action list including an action to take in response to each event in the event list.

22. The system of Claim 21, further comprising:
the event list including a parent state event for a change in the service state for each of the parent nodes;
the action list including a corresponding action of calling a state determiner in response to each parent state event; and
the state determiner operable to redetermine the service state for the node based on the service states for the parent nodes.